

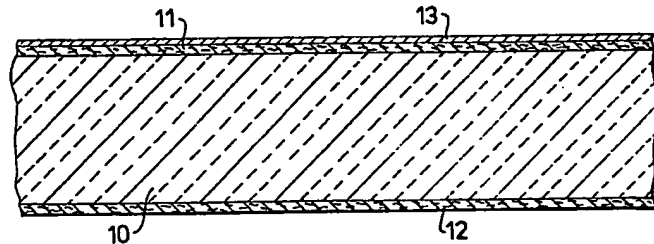
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(54) Improvements in or Relating to a Heat Insulating Member

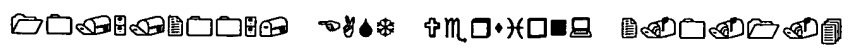
(57) A heat insulating member,
intended to be mounted on the interior
of a building wall, comprises a heat

insulating layer 10 of closed cell
polythene foam with surface layers
11, 12 of paper thermo-laminated on
each side. An additional surface layer
13 of aluminium foil may be provided
on the front, and adhesive may be
provided on the rear.



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SPECIFICATION **Improvements in or Relating to a Heat** **Insulating Member**

This invention relates to a heat insulating member and more particularly to a heat insulating member intended to be used for improving heat insulation, e.g. in rooms of houses, storage rooms and the like, and intended to be mounted on the insides of the walls of such rooms.

It has been previously proposed to use heat insulating wall coverings consisting of a heat insulating layer for improving the heat insulation of rooms, for example.

In the prior proposed heat insulating wall coverings, the heat insulating layer has usually consisted of polystyrene plastics, the plastics material being provided with surface layers of paper or the like. However, this material is friable, crumbling easily during handling, and furthermore, the surface layers, if provided must be glued onto this material, since lamination is not possible. If a gluing process is used for attaching a surface layer made from paper or the like onto the heat insulating plastics layer, there is great risk of the glue drying and cracking if it is heated, especially if the wall covering is located behind, or in the vicinity of, heating apparatus or radiators, adjacent heat conducting pipes or on chimneys, with the result that the surface layer peels from the plastics layer after some while. This is a difficult problem to solve, and the problem is made more difficult if the plastics layer has a brittle and friable surface, which can easily crumble during movement at the surface material due to variations in temperature, and which can also crumble when the wall covering is located in corners and/or at other discontinuities, in or on the wall surface.

The main object on the present invention is to provide a heat insulating member having good heat insulating properties and improved strength with relation to the heat insulating layer and the adhesion of a surface layer thereon.

According to this invention there is provided a heat insulating member comprising a heat insulating layer consisting of polythene foam with closed cells and a surface layer on each side thereof comprising a layer of paper or the like which is thermo laminated to the heat insulating layer.

By using polythene foam with closed cells, a heat insulating layer is obtained which does not crumble and which has very good heat insulating capacity due to the closed cells. By having the surface layer comprise a paper layer laminated to the heat insulating layer by thermo lamination e.g. by a flame lamination process, good adhesion is obtained between the heat insulating layer and the surface layer, so that the risk of the surface layer peeling from the heating insulating layer is obviated.

In order that the invention may be more readily understood and so that further features thereof may be understood the invention will now be

described by way of example with reference to the accompanying drawing which is a cross sectional view of an insulating member in accordance with the invention.

The insulating member shown in the figure comprises a slab having a heat insulating layer 10 of polythene foam with closed cells, which has a thickness of 4—5 mm, and the cells are so small that a large number of cells are present in each cross section between the outer surfaces of the layer 10. On the upper surface of the layer 10, there is a paper layer 11, attached to the layer 10 by flame lamination. A thin foil 13 of aluminium can be glued onto this layer for providing a heat reflective surface coating. This foil is intended to face towards a radiator or the like mounted on a wall, to which the heat insulating member is applied, so that heat radiating from the radiator is reflected into the room again. The aluminium foil can have a thickness of 0.1 mm, for example, and can be covered by a protective coat of varnish to prevent oxidation.

If the heat insulating member is not intended to be placed directly behind a radiator, a wallpaper can be applied to the paper layer 11 instead of the aluminium foil, or the paper layer 11 can be painted or provided with some special embossed texture so that the heat insulating member will have an aesthetically pleasing surface so it can be used as a wall covering. The paper layer 11 can consist of kraft paper which has been previously embossed, coloured or patterned. On the lower outer surface of the layer 10, there is a corresponding paper layer 12 which is also attached to the layer 10 by flame lamination. This paper layer 12 is intended to facilitate attaching the member on a wall, and when the member is to be attached to a wall a suitable glue or paste is applied to this paper layer, whereafter the slab is pressed against the wall. This paper layer can optionally be provided with a coating of adhesive or glue on the outside during manufacture the coating being covered with a strip off protective sheet, which is removed immediately before mounting the member in position. Mounting the member in position is thus further simplified.

Even if a surface layer has been described above as a paper layer, it is obvious that many different types of cardboard or paper can be used and attached to the heat insulating layer by means of flame lamination, or some other form of thermo lamination.

Since the heat insulating layer consists of a foam plastics with closed cells, the advantage is obtained that the insulating member will be wind and water tight.

Claims

1. A heat insulating member comprising a heat insulating layer consisting of polythene foam with closed cells and a surface layer on each side thereof comprises a layer of paper or the like which is thermo laminated to the heat insulating layer.

2. A heat insulating member as claimed in claim 1, wherein one of the surface layers is provided with a thin aluminium coating on the side facing away from the heat insulating layer.
- 5 3. A heat insulating member as claimed in claim 2, wherein the aluminium coating consists of an aluminium foil.
4. A heat insulating member as claimed in claim 2 or 3, wherein the exposed surface of the aluminium coating is provided with a protective coating of varnish or the like.
- 10 5. A heat insulating member as claimed in claim 1, wherein one of the paper layers has a textured surface, to constitute the front side of the member.
- 15 6. A heat insulating member as claimed in claim 1, wherein one paper layer which is to constitute the front side of the member is provided with decorative wallpaper.
- 20 7. A heat insulating member as claimed in any of the preceding claims, wherein the surface layers are flame laminated to the heat insulating layer.
- 25 8. A heat insulating member as claimed in any one of the preceding claims, wherein the surface of the member which is to be the rear surface is provided with a layer of adhesive or glue which is protected by a strip-off protective slab.
9. A heat insulating member substantially as herein described with reference to and as shown in the accompanying drawing.
- 30 10. Any novel feature or combination of features described herein.

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